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VOLUME X, NUMBER 3, SEPTEMBER, 1960

Guest Editorial:

NEW WORDS FOR OLD?

Sail a boat from Spain to the Caribbean, plant a flag on the shore, and proclaim your discovery of a New World, and all the journalistic attention you are likely to receive is brief mention in the "People Are Funny" or "Oddities of the Day" column. No matter how hazardous your undertaking or how brilliantly executed, the fact that one C. Columbus anticipated your adventure almost 500 years ago takes the edge off its newsworthiness.

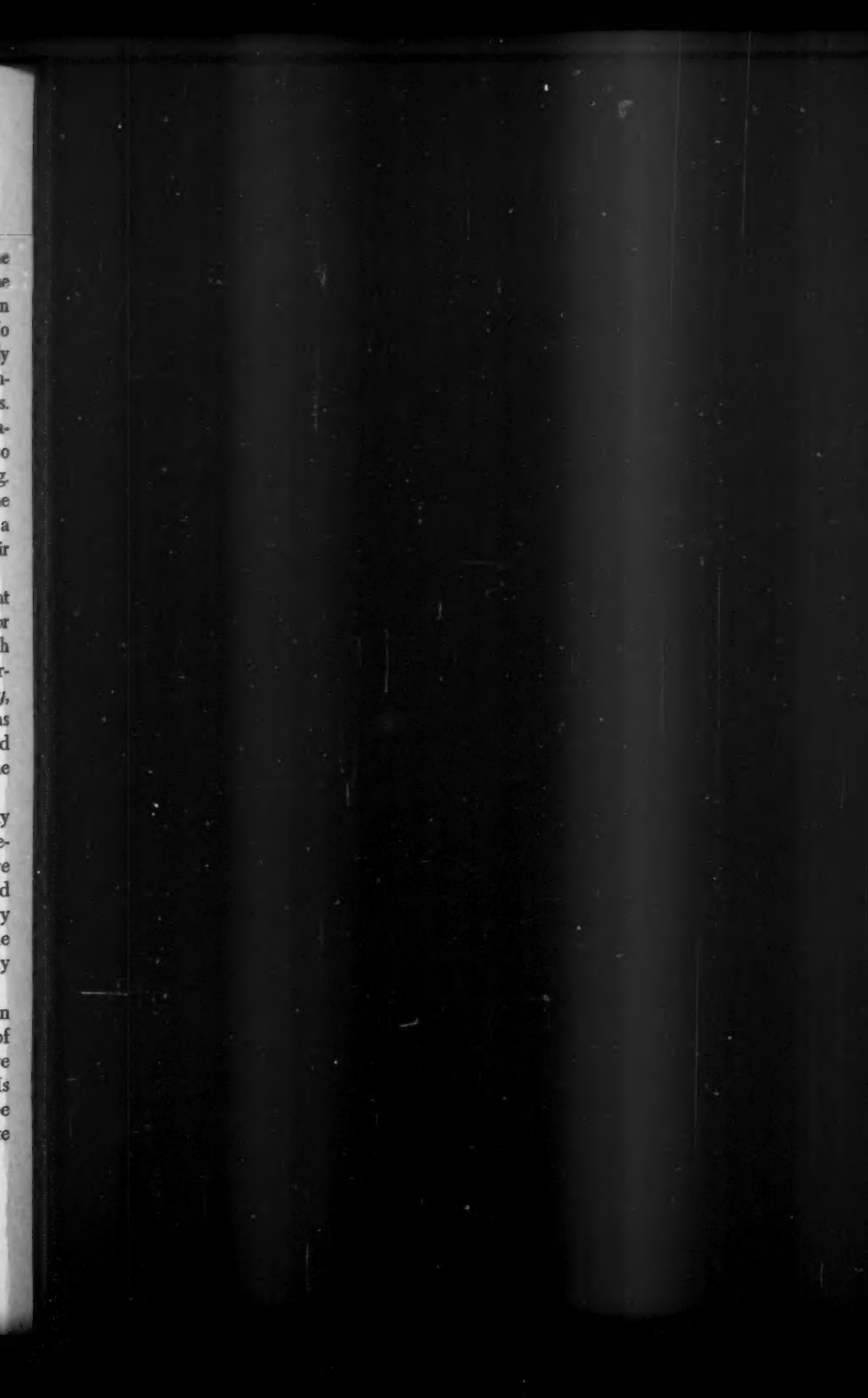
Some researchers in the social sciences today resemble a seafaring man who is both half a millennium too late and who also objects to the editorial judgment that his feat is not worth noting. It would be self-enlightening for them to blow the dust off some of the standard sociology and social psychology textbooks of a generation ago; then they might understand why some of their efforts seem superfluous.

Had they known the literature, those who heard Joseph Alsop at the thirteenth annual conference of the American Association for Public Opinion Research would not have gone away with such wounded pride. Unfortunately no abstract or summary of Journalist Alsop's remarks was available for *Public Opinion Quarterly*, but he told the quantitative-minded savants that several months of conscientious effort at trying to understand their behavior had convinced him that their total achievement was to invent some new terms for some old ideas.

Alsop grew up in news rooms when copy readers and city editors were called copy readers and city editors and not gatekeepers and when letters to the editor and telephone calls were known as reader response and not feedback and were evaluated qualitatively. No complicated charts with arrows were necessary to convince the reporter that editors and publishers determine policy and that all the hired help are consciously or unconsciously influenced by what they understand it to be.

Without detracting an iota from the value of much that has been done in some areas, one still may question whether every aspect of human behavior must be expressed in quantitative terms. Are counting and charting always necessary, or even desirable? Is valuable energy being diverted from areas where it could be utilized to better advantage? Without a Chi-square, the Institute

(Continued on Inside Back Cover Page.)



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A RATIONALE FOR A DEFINITION OF COMMUNICATION*

JOHN B. NEWMAN**

A respected scholar recently observed in the pages of this *Journal* that "considering that communication is one of the oldest human activities, it is somewhat astonishing that no generally accepted definition exists."[1] It is the present writer's contention that the reasons for this apparent anomaly can be identified and that a lack of a definition is not as serious as it seems: for just as Einstein did not change "the laws of the universe," so no definition can change "the laws of communication."

It is the purpose of this paper, therefore, to explicate the problems of defining communication—not to create a definition. In the following pages, we propose to show that:

(1) The reason that no generally accepted definition exists is not because of a lack of knowledge of communication, whether as a process, a body of knowledge, or a field of study, but because of a lack of understanding of the nature, the scope, and the function of a definition.

(2) The epistemological notion that a definition must account completely for that which it defines is impractical and should be rejected.

(3) Communication is so diverse and discursive that the attempt to create a generally accepted definition becomes so profoundly involved that it hinders rather than helps further thought on the subject.

Since the present writer regards an espistemological definition of communication as impractical, his purpose in these pages is to present a rationale for a pragmatic definition. Thus, he does not seek *the* meaning *of* communication—something that everyone must use if he is to be deemed "rational" or "logical" in his

* Starred articles are those which belong to the series commemorating the decennial of the NSSC. They either assess the developments of the last ten years in a particular aspect of the total field of communication, or they analyze the present status.

** Mr. Newman (Ph.D., N.Y.U., 1950) is Assistant Professor of Speech at Queens College of the City of New York.

[1] Howard H. Dean, "A Rationale for the College Communication Course," *The Journal of Communication*, X (March, 1960), 23.

consideration of ideas or problems that may pertain to this field. Instead, the present writer proposes that scholars should seek *a* meaning *for* communication—one which will permit all persons concerned with communication, regardless of their background, their professional area, or their immediate purposes, to speak intelligibly to one another.

Problems of Definition

One appropriate point for beginning an analysis of the problems of definition is the realization that basically any definition involves the use of words about words. This brings up the problem of distinguishing words that are *used* in a given context as contrasted with words that are simply *mentioned* in the same instance; for example, "Say, Tom!" (in which the word "Tom" is *used* as part of the statement) and "Say *Tom*!"—*i.e.*, "Say [the word] *Tom*!" (in which the word "Tom" is *mentioned* in the course of the statement). Punctuation (or inflection of voice) frequently helps in distinguishing the two, but not always. Rules need, therefore, to be established regarding the use of words about words.

The rules for a pragmatic definition should be distinguished from those for an epistemological definition. For one thing, the rules for a pragmatic definition do not pertain to the *definiendum* (that element of the definition whose meaning is explained in the definition—in the present case, the *definiendum* is *communication*), to the *definiens* (that element of the definition which indicates the meaning of the *definiendum*),[2] or to the structure of either or both. Our rules may be said to be the "ground rules" or "house rules" for any pragmatic definition which some future scholar may evolve.

First, a pragmatic definition is not "simply a matter of 'definition.'" This is to say that a pragmatic definition is based upon more than simply mutual agreement. A pragmatic definition must consist of terms which act, as Ludwig Wittgenstein insists, "as a symbolism used in an exact calculus."[3] General acceptance and widespread use—the popular criteria for definitions—there-

[2] Henry S. Leonard, *An Introduction to Principles of Right Reason* (New York: Henry Holt and Co., Inc., 1957), p. 610.

[3] *The Blue and Brown Books* (New York: Harper & Brothers, 1958), p. 25.

fore do not necessarily render a given definition satisfactory; and argumentative opportunism and rhetorical expediency, needless to say, are poor reasons indeed for one to be satisfied with a verbal rendering. If such "nonce-forms" are spurious, they are to be rejected. A satisfactory definition, however, need not be finally, universally, and eternally "complete"; though a pragmatic definition should be a calculus that is validly derived, it may, and perhaps should, remain "in process."

Second, a pragmatic definition circumscribes a concept or referent; hence it is more than a simple lexical explication. Whereas the transliteration of an entry in a lexicon or the annotation of an item in a glossary expresses a relationship between *a name* or *a word* and certain verbal territory, a definition which circumscribes a concept avoids the pitfall "between *meaning* and *naming* even in the case of a singular term which *is* genuinely a name of an object."[4] Gottlob Frege's classic example serves to illustrate the difference between *meaning* and *naming*:

> The phrase "Evening Star" names a certain large physical object of spherical form, which is hurtling through space some scores of millions of miles from here. The phrase "Morning Star" names the same thing, as was probably first established by some observant Babylonian. But the two phrases cannot be regarded as having the same meaning; otherwise that Babylonian could have dispensed with his observations and contented himself with reflecting on the meanings of his words. The meanings, then, being different from one another, must be other than the named object, which is one and the same in both cases.[5]

The bastion of lexical explanation, of course, is the dictionary; and although its usefulness is beyond question, its function is generally misunderstood. Actually, it records past practices in using a word, be those practices right or wrong by an absolute standard. It is a form of history and not a set of mathematical tables. Unfortunately, this characteristic is not generally known:

> [Many persons] look upon a dictionary not as they look upon a book of history but rather as they look upon a book of mathematical tables. . . . As the square root of 1,369 is and always must be 37, no matter what any human may have thought or said or done, and this fact is pretty sure to be accurately stated in one's book of mathematical tables, so, men think, the meaning of a word is and always must be such and such, no matter how men have actually

[4] Willard V. Quine, "On What There Is," in Leonard Linsky, *Semantics and the Philosophy of Language* (Urbana: University of Illinois Press, 1952), p. 196.

[5] Quoted by Quine, *op. cit.*, p. 196.

spoken and written, and this eternal and independent meaning is pretty sure to be accurately stated in one's dictionary. As the engineer who goes against the mathematical tables comes to grief, they think, the writer or speaker who goes against the dictionary comes to grief.[6]

Lest the present writer be interpreted as making a rash attack upon a basic characteristic of language as a communicative medium, permit him to make his position clear. He agrees with the principle that mutual agreement upon the meaning of a term provides a workable basis for communication and that dictionaries provide a service in recording with a reasonable degree of accuracy the nature of the agreement. If the concept is simple, perhaps no serious harm occurs even if that agreement is basically illogical. On the other hand, if the concept is complex (as *communication* certainly is), recording the agreed-upon meaning can render a serious disservice if that meaning is basically illogical and/or false. The problems of reasoning with and about complex concepts are great enough without adding the further difficulty of a term whose definition is inconsistent with reality. The writer, therefore, takes the position that the criterion of general acceptance is inadequate for complex terms and that specialists can be satisfied with nothing less than a definition which is validly derived. Whether dictionaries which seek to serve the general public should concern themselves with this second criterion is beyond the scope of the present paper.

Third, a satisfactory definition is not tautological. Some persons find tautology attractive. For example, Louis MacNeice says, "In the beginning and in the end the only decent/ Definition is tautology; man is man,/ Woman woman, and tree tree, and world world."[7] Wendell Johnson, however, makes short shrift of this idea:

To a mouse, cheese is cheese. That is why mouse traps are effective. To many human beings Right is Right, Wrong is Wrong, Capital is Capital, and Labor is Labor. That is why propaganda is effective. . . . If you call the hogs and then give them corn they will, after a few feedings, come even if you don't give them corn, provided you call them. For the pigs, . . . "the farmer's call is corn." The stupidity of a pig is to be measured in terms of the number

[6] Richard Robinson, *Definition* (Oxford: Oxford University Press, 1954), p. 36.

[7] "Plain Speaking," in *Plant and Phantom* (London: Ryerson Press, 1941), p. 81.

of times he comes in response to your call after you have discontinued the corn—and in terms of the promptness and speed, the lack of delay, with which he continues to come.[8]

Thinking which is based upon tautological definitions is as unsound for people as it is for animals. The response to the call "Capital is Capital" or "Labor is Labor" continues long after the original stimuli have been discontinued. Man's stupidity, like that of the pig, may be measured in terms of the promptness, the speed, and the number of times he continues to come to calls which have long since "stopped producing corn." If "cheese is cheese" and we happen to be hungry, we may find a metal spring crashing down on the back of our necks. Tautology has its shortcomings.

Theoretical Considerations

Does a pragmatic definition need to be "complete" in the sense that "a complete definition"[9] is prescribed epistemologically? The viewpoint of the present writer, as was stated earlier, is that the concept of communication is inherently so diverse and discursive that (*a*) any attempt "completely to determine" the meaning of communication will not be generally accepted (*Q.E.D.*!) and (*b*) any attempt "completely to explain" its meaning can only result in a map so specifically detailed as to be the equivalent of the territory it is intended to represent. Thus, it would not serve the purpose of a map!

To argue the possible merits of an "incomplete definition" in these special circumstances as compared to the merits of a "complete" one is to argue the number of angels that can dance on the head of a pin. The issue is not what is ideal but what is possible. "Completeness" and "incompleteness" would seem, therefore, not to pertain to a pragmatic definition of communication.

Another theoretical problem, derived perhaps from the Aristotelian doctrines of first principles and prime movers, is whether defining words in terms of other words does not lead ultimately to an undefined term in each field of human knowledge. The

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[8] *People in Quandaries* (New York: Harper & Brothers, 1946), p. 192.

[9] A "complete" definition has been described as "an act of definition intending . . . completely to determine or explain the meaning" of the *definiendum*. See Leonard, *op. cit.*, pp. 273, 609.

present writer agrees with Cohen and Nagel that "it is a mistake to suppose that there are *intrinsically* undefinable terms."[10] Such rationalized, though verbally diversified, justifications as "primitive terms," "primal facts," "*Urphänomen*," and "eternally precalibrated monads" serve only to cause confusion, and the implication of mysticism in these cases is a useless diversion. *Phlogiston* is an example of a term whose definition was thus rendered meaningless:

> [*Phlogiston* was a term in the old chemistry] designating an element supposed to be weightless, odorless, and intangible and the cause of fire. If we think, we see that the term either means nothing at all or simply means "the unknown cause of fire."[11]

Analysis of Representative Definitions of Communication

The preceding section developed in some detail various points pertaining to the process of definition as it relates to defining the term *communication*. The following paragraphs seek to illuminate further the problem of defining this term by analyzing critically definitions by a philosopher, a psychologist, and a psychiatrist. Scores of additional published definitions also exist, but these three are sufficiently representative to serve the purposes of this paper.

Woodrow W. Sayre posits communication as "a first principle in philosophy," a principle "whose denial is impossible because it is reinvolved in the very denial."[12] This argument, however, is simply a restatement of "the old Platonic riddle of non-being."[13] Willard Quine has refuted it as follows:

> When a statement of being or non-being is analyzed by Russell's theory of descriptions, it ceases to contain any expression which even purports to name

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[10] Morris R. Cohen and Ernest Nagel, *Introduction to Logic and Scientific Method* (New York: Harcourt, Brace and Co., 1934), p. 142.

[11] John C. Sherwood, *Discourse of Reason: A Brief Handbook of Semantics and Logic* (New York: Harper & Brothers, Inc., 1960), p. 13.

[12] "Communication as a First Principle in Philosophy," *Quarterly Journal of Speech*, XXXIV (April, 1948), 130.

[13] The reasoning here is developed as follows: "I cannot admit that there are some things which [my opponent] countenances and I do not, for in admitting that there are such things I should be contradicting my own rejection of them. . . . It would appear, if this reasoning were sound, that in any ontological dispute the proponent of the negative side suffers the disadvantage of not being able to admit that his opponent disagrees with him. . . . This is the old Platonic riddle of non-being. Non-being must in some sense be, otherwise what is it that there is not?" See Quine, *op. cit.*, p. 189.

> the alleged entity whose being is in question, so that the meaningfulness of the statement no longer can be thought to presuppose that there be such an entity. . . . So the old notion that statements of non-being defeat themselves goes by the board.[14]

Furthermore, even if it is a first principle of philosophy, such a postulation rather than being a definition of communication is actually the avoidance of one.

Almost as though to avoid such philosophical entanglements, a famous psychologist has approached the problem behavioristically. His widely (though not generally) accepted definition is presented as follows:

> Although no phenomenon is more familiar to us than communication, the fact of the matter is that this magic word means many things to many people. A definition broad enough to encompass all these meanings may risk finding itself dissipated in generalities, but for [present] purposes . . . a broad operational definition of communication is, I believe, both appropriate and possible. I should like, therefore, to venture the following: *Communication is the discriminatory response of an organism to a stimulus.*
>
> This definition says that communication occurs when some environmental disturbance (the stimulus) impinges on an organism and the organism does something about it (makes a discriminatory response). If the stimulus is ignored by the organism, there has been no communication. The test is differential reaction of some sort. The message that gets no response is not a communication.
>
> This definition is broad, operational, and behavioristic.[15]

This definition is open to two points of criticism, the first of which is that Stevens confuses the "reality" of *communication* with the *name* "communication." Although he criticizes a definition of the *word*, which would "risk finding itself dissipated in generalities," he advocates his own "broad, operational, and behavioristic" definition of specific, concrete acts or events.

As was mentioned earlier, a definition must not confuse a referent and the name for it. In classical terms, unless a distinction is made between a "real" definition, which circumscribes a concept or referent, and a "nominal" definition, which transliterates the lexical "name" of that referent, unnecessary vagueness results. Such definitions "serve as little more than foci for discussion."[16]

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[14] *Ibid.*, p. 194.

[15] S. S. Stevens, "A Definition of Communication," *Journal of the Acoustical Society of America*, XXII (1950), 689.

[16] Colin Cherry, *On Human Communication* (New York: John Wiley & Sons, Inc., 1957), p. 6.

A second criticism is that the definition is not based upon a sensible interpretation of empirical data. Colin Cherry points out that "communication is not the response itself but is essentially the *relationship* set up by the transmission of stimuli and the evocation of responses."[17] Furthermore, the arbitrary rule that "the message that gets no response is not a communication" forces a longer look both at the notion of a stimulus and at the notion of a response to "it," in "languages, codes, and logical sign systems, at least."[18]

In an earlier article,[19] the present writer presented his own analysis of the rule that "the message that gets no response is not a communication." Space will not be consumed here by a repetition of that argument.

A third definition originally appeared in a well-known book with a psychiatric context:

> Communication does not refer to verbal, explicit, and intentional transmission of messages alone. . . . The concept of communication would include all those processes by which people influence one another. . . . This definition is based upon the premise that all actions and events have communicative aspects, as soon as they are perceived by a human being; it implies, furthermore, that such perception changes the information which an individual possesses and therefore influences him.[20]

The essential difference between this definition and Stevens' is the difference between perception *qua* perception and perception as the "trigger" for response; whereas Ruesch and Bateson posit perception as changing an individual's "store" of information, Stevens implies that perception "triggers" the response, which he conceives to be communication.

The shortcoming in this definition, however, is its limitation to human beings. This restriction not only rules out communicative interactions between men and machines and between machines and machines but also those yet intuited circumstances known variously by such names as revelation, epiphany, sartori, etc.

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[17] *Ibid.*, pp. 6–7.

[18] *Ibid.*, p. 7.

[19] John B. Newman, "Communication: A Dyadic Postulation," *The Journal of Communication*, IX (June, 1959), 51–58.

[20] Jurgen Ruesch and Gregory Bateson, *Communication: The Social Matrix of Psychiatry* (New York: W. W. Norton & Co., Inc., 1951), pp. 5–6.

Diversity as a Factor Making Definition Difficult

That the definitions of even some of the ablest thinkers in their respective academic areas are unsatisfactory is proof of the difficulty of the task. The following paragraphs on the diverse nature of communication not only help to explain the problems of these scholars but also suggest that the pragmatic approach which the present writer recommends also will be hard to follow.

Simply to enumerate some of the aspects of the communication process makes one question both the justification for the present-day consideration of such a diversity as a unified concept and the feasibility of positing "communication" as the unifying symbol for such discursiveness. Such was not always the case, however.

> In 1935, when [Kenneth] Burke proposed to call his book *Treatise on Communication*, the publishers assured him that the title would suggest a book on telephone wires. So Burke was persuaded to accept the title *Permanence and Change*.[21]

By 1956, Richard L. Meier indicated that "communication" suggested the following categories:

a. *face to face* conferences, meetings, gossip, etc.
b. *reading* newspapers, magazines, books, billboards, etc.
c. *man–machine*, reading instruments, gauges, microscopes, radar, etc.
d. *person–person* (*machine interposed*) telephone, radio, TV, films.
e. *machine–machine*, feedbacks, interlocks, automatism.[22]

In 1960, "communication" is not even restricted to processes! Today "communication" also encompasses a body of knowledge and a field of study, including listening.

Messages that are communicated are verbal and nonverbal, with the latter including paralanguage and kinesics[23] as well as nonlinguistic contextual cultural messages involving association, subsistence, sexuality, territoriality, temporality, learning,

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[21] Marie K. Hochmuth, "Kenneth Burke," an unpublished paper presented before the Communications Colloquium at the University of Illinois, May 23, 1955, p. 1.

[22] "Communications and Social Change," *Behavioral Science*, I (1956), 51.

[23] See Henry Lee Smith, Jr., "The Teacher and the World of Language," *College English*, XX (Jan., 1959), 172–178.

play, defense, and exploitation.[24] Myths and dreams also constitute "languages."[25]

That *communication* includes diverse ideas becomes still more evident if the nature of messages is analyzed: (*a*) directed messages, such as those transmitted in a telephone system as well as those transmitted in a face-to-face discussion system, are in contrast with undirected messages, such as those transmitted in a broadcasting system or in a public address to a multitude; (*b*) messages of primary information or content are in contrast with messages of secondary information (consisting of the reflexive awareness of who knows what); (*c*) consummatory messages, such as the expression of emotion (which does not depend upon feedback from the recipient) are in contrast with instrumental messages, which require feedback or secondary information about the effect of the message on the recipient;[26] (*d*) the attenuation of primary information in "phatic communion" is in contrast with the density of information in the compressed tower talk of airport operations. Even this much of an itemization (and no claim to completeness is made) makes the possibility of a single or unified definition—even an incomplete one—appear to be little more than wishful thinking, well-intentioned though it may be.

Conclusion

If any definition is possible, it must be descriptive and pragmatic. Prescriptivists will no doubt complain, for to them a definition is expected to state what *should* take place. The creation of a satisfactory definition is going to be extremely difficult, but this writer hopes that his analysis of the nature of definition and his critiques of some of the preceding attempts will be helpful to others. Of one thing he is sure: no acceptable definition is possible unless its creator has an understanding of the broad theory of definition-making.

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[24] See Edward T. Hall, *The Silent Language* (New York: Doubleday & Co., Inc., 1959), esp. pp. 222–223.

[25] See Erich Fromm, *The Forgotten Language* (New York: Rinehart & Co., Inc., 1951).

[26] See George A. Miller, *Language and Communication* (New York: McGraw-Hill Book Company, Inc., 1951), esp. pp. 251–253.

A CLASSIFIED SUMMARY OF LISTENING—1950–1959*

ISABELLA H. TOUSSAINT**

Of the four communication skills—reading, writing, speaking, and listening—the last, which is used the most frequently, has received the least pedagogical attention. Not until the second quarter of the present century did educators turn their attention to listening, and only in the past decade have research and writing been extensive. The purpose of this article is to summarize the pertinent papers and studies of the past ten years of listening inquiry.

WHAT IS LISTENING?

Listening is more than hearing. Barbe defines it "as the process of relating the spoken language in terms of past experiences and future courses of study."[1] Johnson says listening is "the ability to understand and respond effectively to oral communication."[2] Hampleman defines it as "the act of giving attention to the spoken word, not only in hearing symbols, but in the reacting with understanding."[3] Don Brown, who coined the word *auding* as a substitute for *listening*, defines this new term as "the process of hearing, listening to, recognizing, and interpreting the spoken language."[4]

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* Starred articles are those which are part of the series commemorating the decennial of the NSSC. They either assess the developments of the last ten years in regard to a particular aspect of the total field of communication, or they analyze the present status.

This article is the second one on listening in the series. Whereas Paul W. Keller's "Major Findings in Listening in the Past Ten Years," in the March, 1960, issue draws a portrait of listening in "broad sweeping strokes," Mrs. Toussaint deals largely in details. The two, therefore, are complementary, and together they cover the field thoroughly.

** Mrs. Toussaint is a Ph.D. candidate, School of Education, University of Pittsburgh. She is at present in the process of completing an experimental study on the "Interrelationship of Reading, Listening, Arithmetic, and Intelligence and Their Implications" under the direction and advisement of Dr. Donald L. Cleland, Director of the Reading Laboratory.

[1] Walter Barbe and Robert Meyer, "Developing Listening Ability in Children," *Elementary English*, XXXI (February, 1954), 82.

[2] Kenneth O. Johnson, "The Effect of Classroom Training upon Listening Comprehension," *The Journal of Communication*, I (May, 1951), 58.

[3] Richard Hampleman, "Comparison of Listening and Reading Comprehension Ability of 4th and 6th Grade Pupils," *Elementary English*, XXXV (January, 1958), 49.

[4] John Caffrey, "Auding," *Review of Educational Research*, XXV (April, 1955), 121.

Is Listening Important?

That this process of hearing and interpreting with understanding the spoken language is important to learning has long been recognized, but not until recently has the extent of its importance been measured. An investigation by Wilt found that 57.5 per cent of the time a child spends in elementary school is devoted to listening.[5] Cartier found that 50 per cent of a group of tenth grade students comprehended only about 25 per cent of what they heard.[6] An early study by Rankin, reported that 42 per cent of adult communication time was spent in listening.[7]

Listening is important in learning, but it is also essential in the preservation of our democratic way of life. "If Americans are to resist the blandishments of demagogues and would-be dictators, critical listening is a must."[8] We must teach our children how to listen "if we want a world of peace and a world of happiness."[9] The mental health of our friends may depend on our ability to become nondirective listeners or sounding boards on which they can unburden and talk out their problems.[10]

What Factors Influence Listening?

As listening is the receiving and reflective half of a two-way communication process, certain factors related to the speaker may affect the listener's comprehension. Several studies have been made to investigate the optimal rate of speaking. Between 145 and 160 words per minute, according to one experiment, is best for informational material.[11] Other studies have suggested that it is not always important that the material be well organ-

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[5] Miriam Wilt, "A Study of Teacher Awareness of Listening as a Factor in Elementary Education," *Journal of Educational Research*, XLIII (April, 1950), 626–636.

[6] Francis Cartier, "An Experimental Study of the Effect of Human Interest on Listenability," *Speech Monographs*, XIX (June, 1952), 114.

[7] Paul Rankin, "The Measurement of the Ability to Understand Spoken Language," *Dissertation Abstracts*, XII (No. 6, 1952), 847–848.

[8] Gregg Phifer, "Propaganda and Critical Listening," *The Journal of Communication*, III (May, 1953), 38.

[9] George Murphy, "We Also Learn by Listening," *Elementary English*, XXVI (March, 1949), 127.

[10] Ralph Nichols, "If Only Someone Would Listen," *The Journal of Communication*, VIII (Spring, 1958), 8–15.

[11] Leo Goodman-Malamuth, II, "An Experimental Study of the Effect of Speaking Rate upon Listening," *Speech Monographs*, XXIV (June, 1957), 90.

ized[12] or spoken fluently,[13] but it is important that the speaker be seen,[14] and that the material of his speech be of high quality.[15] Who the speaker is[16] and how well he is liked[17] also carry weight with the listener.

The speaker can facilitate comprehension by using certain devices to help the listener. Gauger's study on the use of gestures showed that the listeners who saw and heard the gesture version of the material comprehended significantly more than those who heard the nongesture presentation.[18] Varying pitch, voice quality, tone, and volume also help.[19] In a persuasive speech it is not necessary, according to Cathcart, for the speaker to document his material. "The speaker who skillfully incorporates into his own thinking the evidence gathered and then weaves it smoothly into the speech will be just as effective as the speaker who stops to cite sources for all his evidence or the one who documents and qualifies each source."[20]

Zelko adds several other important factors of which the speaker should be cognizant: the background and the prestige of the listener, the listener's attitude toward the message, and the language the listener likes best.[21]

No more than one half of the responsibility for effective communication rests with the speaker; the other half depends

[12] Kenneth C. Beighley, "An Experimental Study of the Effect of Four Speech Variables on Listening Comprehension," *Dissertation Abstracts*, XVIII (May, 1958), 1894–1896.

[13] Vernon Alfred Utzinger, "An Experimental Study of the Effect of Verbal Fluency upon the Listener," *Speech Monographs*, XX (August, 1953), 161.

[14] Paul William Gauger, "The Effect of Gesture and the Presence or Absence of the Speaker on the Listening of 11th and 12th Grade High School Pupils," *Speech Monographs*, XIX (March, 1952), 116–117.

[15] Beighley, *loc. cit.*

[16] Stanley Paulson, "The Effect of the Prestige of the Speaker and Acknowledgement of Opposing Arguments on Audience Retention and Shift of Opinion," *Dissertation Abstracts*, XIII (Part 1, 1953), 270.

[17] Franklin S. Haiman, "An Experimental Study of the Effect of Ethos on Public Speaking," *Speech Monographs*, XVI (September, 1949), 190–202.

[18] *Loc. cit.*

[19] Joel Stark, "An Investigation of the Relationship of the Vocal and Communication Aspects of Speech Competency with Listening Competency," *Dissertation Abstracts*, XVII (Part 1, 1957), 696.

[20] Robert S. Cathcart, "An Experimental Study of the Relative Effectiveness of Four Methods of Presenting Evidence," *Speech Monographs*, XXII (June, 1955), 233.

[21] Harold Zelko, "An Outline of the Role of Listening in Communication," *The Journal of Communication*, IV (Autumn, 1954), 71–75.

on the auder. "A good listener is one who, in a wide variety of dynamic social situations, makes the best possible use of auditory stimuli available to him, to improve his own well being and integration of his relationships to others in his environment."[22]

Ralph Nichols makes ten suggestions on how to become a good listener. (1) Since effective listening is directly related to past experience, it is the responsibility of the listener to acquire a wide and varied experiential background. (2) The listener must be interested. (3) The listener should adjust to the speaker by paying attention, establishing eye contact, and expressing appreciation by his attitude or applause. (4) Because it requires energy to listen, it is important that the listener be physically healthy, get plenty of rest, and be free of worries. (5) The listener must make adjustments for abnormal situations. If the room is hot and stuffy, open a window. If noise interferes, make some effort to eliminate it. A study by Black indicates that noise can result in temporary deafness.[23] (6) As emotionally loaded words may result in temporary mental paralysis, adjustments should be made for them. (7) The listener should hold evaluation until the speaker has finished so that emotion-arousing points will affect him as little as possible. (8) The good listener learns to recognize the difference between fact and opinion, and between central and supporting ideas. (9) The listener should utilize notes. The amount and kind are immaterial according to McClendon.[24] (10) The listener should make reconciliation for difference in thought speed and speech speed. Thought speed is at least 400 words per minute; speech speed may vary from 125 to 200 words per minute. This time difference should be used for reflecting on what is being heard and in making inferences and not wasted on irrelevant problems and worries.[25]

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[22] Walter Stromer, "Listening and Personality," *Education*, LXXV (January, 1955), 324.

[23] John Black, "Effect of Noise Induces Temporary Deafness," *Speech Monographs*, XVIII (March, 1951), 74–76.

[24] Paul Irving McClendon, "An Experimental Study of the Relationship Between the Note Taking Practices and Listening Comprehension of College Freshmen During Expository Lecture," *Dissertation Abstracts*, XVI (1956), 1736–1737.

[25] Ralph Nichols, "Ten Components of Effective Listening," *Education*, LXXV (January, 1955), 292–302.

Are Listening and Reading Related?

A number of studies have been made to investigate the relationship between reading and listening. Hampleman's study found that listening comprehension of pupils in the intermediate grades was superior to their reading comprehension.[26] Harwood investigated the relationship of reading and listening comprehension of language samples at various levels of reading difficulty. Taken as a whole the series was only insignificantly more comprehensible when presented through reading than through listening.[27] Haugh found that eleventh grade pupils acquired more information from reading than from listening; however, after seven weeks, the scores on a delayed recall test showed no significant difference between the two media in respect to the amount of learning.[28]

Lewis tested the hypothesis that training in the ability to listen (*a*) to get the general significance, (*b*) to note detail, and (*c*) to predict the outcome transfers to reading for the same purpose. Results show the transfer to be of a temporary nature.[29] Stromer combined reading and listening training. Students read silently while listening simultaneously to recordings of material at speeds up to 285 words per minute. Rate of reading and listening comprehension improved, but no significant gain occurred in reading comprehension.[30]

A comparison of the vocabulary growth of college students after exposure to stories containing the 210 words of the *Cooperative Vocabulary Test* shows that gains are greatest after oral reading and least after listening alone.[31]

Dow, citing eight factors common to both reading and listen-

[26] *Loc. cit.*

[27] Kenneth Harwood, "An Experimental Comparison of Listening Comprehension with Reading Comprehension," *Speech Monographs*, XVIII (August, 1951), 123.

[28] Oscar Haugh, "The Relative Effectiveness of Reading and Listening to Radio Drama as Ways of Imparting Information and Shift of Attitude," *Journal of Educational Research*, XLV (March, 1952), 489–498.

[29] Maurice Lewis, "The Effect of Training in Listening upon Reading," *The Journal of Communication*, III (November, 1953), 115–119.

[30] Walter Stromer, "An Investigation into Some of the Relations Between Reading, Listening, and Intelligence," *Speech Monographs*, XXI (March, 1954), 159–160.

[31] James Young, "An Experimental Comparison of Vocabulary Growth by Means of Oral Reading, Silent Reading, and Listening," *Speech Monographs*, XX (November, 1953), 273–276.

ing, suggests that these should be integrated at the informational and, to some extent, at the evaluative levels but not at the practice level.[32]

The prognostic value which auding tests have for reading was studied by Moe. He found that in the first grade a single test of auding ability in the fall predicted reading performance in March as well as, or better than, either of two reading readiness tests or an intelligence test. His findings were inconclusive with second and third graders.[33] Owen also tested the predictive value of listening tests at the primary level. His findings show that with children from grades two, three, and four reading expectancy can be predicted more accurately by combining measures of reading and listening than by using a single measure of intelligence or listening.[34]

A recent study by Westover compares the effectiveness of listening and reading as channels for receiving testing material. He reports that the two methods of receiving material for testing at the college level are equally effective.[35]

Can Listening Be Taught?

Listening is a skill which can be taught according to Blewett,[36] Erickson,[37] Heilman,[38] Irwin,[39] and Pratt.[40] Lewis[41] and John-

[32] Clyde Dow, "Integration of Reading and Listening Comprehension," *The Journal of Communication*, VIII (Autumn, 1958), 118–126.

[33] Iver L. Moe, "Auding as a Predictive Measure of Reading Performance in Primary Grades," *Dissertation Abstracts*, XVIII (January, 1958), 121–122.

[34] Jason C. Owen, "A Study of the Prognostic Value of Certain Measures of Intelligence and Listening Comprehension with a Selected Group of Elementary Pupils," Ed.D. Dissertation, University of Missouri, 1957.

[35] Frederick L. Westover, "A Comparison of Listening and Reading as a Means of Testing," *Journal of Educational Research*, LII (September, 1958), 23–26.

[36] Thomas T. Blewett, "An Experiment in the Measuring of Listening at the College Level," *The Journal of Communication*, I (May, 1951), 50–57.

[37] Allen Erickson, "Can Listening Efficiency Be Improved?" *The Journal of Communication*, IV (Winter, 1954), 128–132.

[38] Arthur Heilman, "An Investigation in Measuring and Improving the Listening of College Freshmen," *Speech Monographs*, XVIII (November, 1951), 302–308.

[39] Charles Irwin, "An Analysis of Certain Aspects of a Listening Training Program Conducted among College Freshmen at Michigan State," *Dissertation Abstracts*, XII (No. 5, 1952), 704–705.

[40] Lloyd Pratt, "The Experimental Evaluation of a Program for Improvement of Listening in the Elementary School," *Dissertation Abstracts*, XIII (No. 6, 1953), 1118–1119.

[41] *Loc. cit.*

son,[42] however, found that on delayed recall tests the experimental groups showed no significant difference from the controls.

The skill of listening must be adapted to the kind of material and the purpose for listening. If the purpose is enjoyment, according to one writer, listen appreciatively; if the purpose is to get information, listen discriminately; if the purpose is to evaluate or make judgments, listen critically. Phifer considers the latter type of listening most important in a democracy such as ours.[43]

Fessenden proposes the theory that there are seven levels of listening. First, we learn to isolate sounds, ideas, arguments, facts, organization, and the like. Second, we give meaning to them. Third, we integrate what we hear with past experience. Fourth, we inspect the general configuration of the old material and the new. Fifth, we interpret, outline, and evaluate what is heard. Sixth, we interpolate or give new meanings. Seventh, we introspect as well as listen.[44]

How can we teach listening in the elementary grades? First, it can be taught through games. Murphy suggests the "Johnny Said Game." One pupil may say, "Johnny said, 'Go to the board.'" The next child will say, "Johnny said, 'Go to the board and draw a duck.'" Each child repeats what the others have said and adds a new item.[45]

Beery describes another interesting game. Four or five children are selected, and all but one are sent from the room. After the remaining child has been shown a picture, he recalls one of the others and describes what he has seen. The second child, in turn, calls in the third, etc., until each has had an opportunity to relay what he has seen. The picture is again placed before the group. Omissions will be obvious, and discussions lively.[46]

Useful activities other than games include the development of "listening log," the recording and playing back of reports, speeches, and oral readings, exercises in finding the central

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[42] *Op. cit.*, pp. 57–62.

[43] *Loc. cit.*

[44] Seth Fessenden, "Levels of Listening—a Theory," *Education*, LXXV (January, 1955), 288–291.

[45] *Loc. cit.*

[46] Althea Beery, "Experiences in Listening," *Elementary English*, XXVIII (March, 1951), 130–132.

ideas of talks, and the outlining of speeches. Furness gives many worth-while suggestions in "Remedial and Developmental Program in Listening," *Elementary English*, XXXII (December, 1955), 525–532.

Let it be remembered that children learn by imitation. The teacher who has not learned to listen effectively cannot teach it.

Teaching listening in high school and college requires a different approach. Here are a few ways in which it has been attempted. Dow presented recorded material to very large college classes. This material included lectures on how to listen, how to take notes, and how to get the central idea of a passage. Tests were given and records kept of progress.[47] Needham had his pupils prepare a short talk on how to do something (tie a necktie, make a five-pointed star). The other students were asked to follow the directions precisely.[48] Baker integrated listening training with oral reading, speech criticism, or learning spelling by sound.[49]

Treanor in "For Every Lesson Listen," urges further effort. "The world of sound is always with us by day and by night," he says. "Teachers, therefore, should take advantage of its innumerable manifestations in order to enrich the atmosphere of everyday lessons."[50]

Can Listening Be Measured?

Early attempts to measure listening through teacher observation or reading tests used as auding tests proved to have some value. *The Durrell-Sullivan Reading Capacity Tests*[51] and the vocabulary section of the *Stanford Revision of the Binet Scale*[52] have been used at the primary and the intermediate grade levels.

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[47] Clyde W. Dow, "Listening Instruction at Michigan State, 1954–1955," *The Journal of Communication*, V (Autumn, 1955), 110–112.

[48] Arnold Needham, "Listening Exercises with a Purpose," *Education*, LXXV (January, 1955), 311–315.

[49] William Baker, "Listening—A Functional Part of Composition," *The Journal of Communication*, VI (Winter, 1956), 174–179.

[50] John Treanor, "For Every Lesson Listen," *Elementary English*, XXXIII (May, 1956), 294.

[51] Donald D. Durrell and Helen Sullivan, *Durrell-Sullivan Reading Capacity Tests* (Yonkers-on-Hudson, New York: World Book Co., 1937).

[52] Lewis M. Terman and Maud A. Merrill, *Revised Stanford-Binet Scale* (Boston: Houghton Mifflin Co., 1937).

The auditory comprehension section of the *Diagnostic Reading Tests*[53] has been used at the secondary level.

Recently there have been several studies on the development of listening tests: at the primary level, by Hayes[54] and Wright;[55] at the intermediate level, by MacDonald;[56] at the secondary and college levels by Blewett,[57] Briggs,[58] Caffrey,[59] James Brown,[60] and Dow.[61]

Blewett constructed two tests, one on content retention and the other on drawing conclusions, and administered them to college freshmen girls in order to establish relationships between listening ability and scores on intelligence and scholastic achievement tests.[62] Dow's tests on listening comprehension are suitable for administration to large groups of college freshmen.[63] Briggs constructed a diagnostic listening test that was validated on a rating scale.[64] James Brown developed tests to measure the receptive and the reflective listening skills. These measures were later incorporated into the first published test on listening comprehension, the *Brown-Carlsen Listening Comprehension Test*.[65,66]

[53] The Committee on Diagnostic Reading Tests, Inc., *Diagnostic Reading Tests, Section II: Comprehension Silent and Auditory* (New York, 1957).

[54] Mary Therese Hayes, "Construction and Evaluation of Comparative Measures of English Language Comprehension in Reading and Listening," *Dissertation Abstracts*, XVIII (May, 1958), 1721–1722.

[55] Evan Leonard Wright, "The Construction of a Test of Listening Comprehension for 2nd, 3rd, and 4th Grades," *Dissertation Abstracts*, XVII (October, 1957), 2226–2227.

[56] Douglas Francis MacDonald, "The Construction and Evaluation of Objective Tests of Oral Language Skills," *Dissertation Abstracts*, XVII (Part 2, 1957), 1961.

[57] *Loc. cit.*

[58] Bernice Prince Briggs, "Testing Listening Effectiveness," *Speech Monographs*, XXIII (March, 1956), 9–13.

[59] John Caffrey, "Auding Ability at the Secondary Level," *Education*, LXXV (January, 1955), 303–310.

[60] "The Objective Measurement of Listening Ability," *The Journal of Communication* IV (May, 1951), 44–48.

[61] Clyde W. Dow, "The Development of Listening Comprehension Tests for Michigan State College Freshmen," *Dissertation Abstracts*, XIII (Part 1, 1953), 268–269.

[62] *Loc. cit.*

[63] Dow, "The Development of Listening Comprehension Tests."

[64] *Loc. cit.*

[65] *Loc. cit.*

[66] James Brown and Robert Carlsen, *Brown-Carlsen Listening Comprehension Test* (Yonkers-on-Hudson, New York: World Book Co., 1951).

Several tests have been developed for the elementary level. Hayes constructed two comparable measures of listening and reading for primary grades.[67] Wright made a listening comprehension test for grades two, three, and four. He found, however, that it was too easy for grades above the second.[68] MacDonald developed a test to measure recall after hearing and silent reading.[69] A very early study by Rankin measured the listening ability of intermediate students.[70] *The STEP Listening Test*, published by the Educational Testing Service (Princeton, New Jersey, 1956, 1957), is the only published listening test for use in grades four through fourteen.

Conclusion

This paper agrees with Dr. Keller that "a look at the past ten years reveals important landmarks in listening research,"[71] but there is need for further studies. Many questions are still unanswered. What causes the great differences among results from studies related to reading and listening? Is it the measures used or the age of the research population? Would administering listening tests by mechanical means rather than in the personal pupil-teacher relationship alter the results? To what extent can the vocabulary of the elementary student be increased through listening training? Would teaching social studies through an aural rather than a visual approach affect achievement negatively or positively? How does listening to arithmetic problems differ from the reading of the same problems in its effects upon comprehension?

This summary thus indicates that listening is important, identifies factors influencing it, considers how it is related to reading, and reports studies pertaining to whether it can be taught. Further research in these and other areas is necessary before a great many questions can be answered conclusively.

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[67] *Loc. cit.*
[68] *Loc. cit.*
[69] *Loc. cit.*
[70] *Loc. cit.*
[71] Keller, *op. cit.*, p. 29.

A STUDY OF THE RESULTS OF AN EXTREMELY SHORT INSTRUCTIONAL UNIT IN LISTENING

KIM GIFFIN AND LARRY HANNAH*

The increased study of listening in recent years indicates growing recognition of the importance of listening in education[1] and in our society.[2] Numerous studies have demonstrated that listening can be identified,[3] measured,[4] and taught.[5]

Programs of instruction in listening frequently continue over extended periods of weeks or even months.[6] An interesting question is this: Can identifiable and significant improvement in listening be achieved by relatively untrained instructors in an extremely short time, e.g. one hour each day on four consecutive days?

PURPOSE OF THIS STUDY

The objective of the project herein reported was to evaluate the effectiveness of a very short instructional unit in listening as a part of a college level course in the fundamentals of speech.

A further consideration was the use of a relatively untrained teacher. Equipped with little more than one copy of a standard textbook in listening, he corresponded somewhat to the average high school or small college instructor who might wish to include

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* Kim Giffin (Ph.D., Iowa, 1950) is Head of the Speech Division, Department of Speech and Drama, University of Kansas.

Larry Hannah (B.A., Kansas, 1953) is Instructor of Speech, George Washington High School, Agana, Guam.

[1] See, for example, Paul W. Keller, "Major Findings in Listening in the Past Ten Years," *The Journal of Communication*, X (March, 1960), 29–38.

[2] Ralph Nichols, "If Only Someone Would Listen," *The Journal of Communication*, VIII (Spring, 1958), 8–15.

[3] See Bernice P. Biggs, "Construction, Validation, and Evaluation of a Diagnostic Test of Listening Effectiveness," *Speech Monographs*, XXIII (March, 1956), 9–13.

[4] Thomas T. Blewett, "An Experiment in the Measurement of Listening at the College Level," *Speech Monographs*, XVIII (August, 1951), 174–175; see also Keller, *op. cit.*, pp. 30–32.

[5] There are numerous studies which support this view; probably representative is the one by Edward Pratt, "Experimental Evaluation of a Program for the Improvement of Listening," *Elementary School Journal*, LVI (March, 1956), 315–320.

[6] See, for example, Clyde W. Dow, "Listening Instruction at Michigan State, 1954–1955," *The Journal of Communication*, V (Winter, 1955), 110–112.

at least a very short unit in listening in an ordinary course in "beginning speech."

Reports of previous investigations have generally been concerned with instructional units in listening involving relatively long periods of time, typically ranging from six weekly training sessions of twenty minutes each[7] to twelve weeks of organized college classes.[8] Shorter training programs have been employed;[9] however, it appears that a short, concentrated training unit presented by a relatively untrained instructor has not previously been the object of careful study.

Method of Investigation

At the University of Kansas a four-day unit in instruction in listening was designed and integrated into the schedule of one Fundamentals of Speech class. The assumption was that such a class provides a reasonable vehicle for such a project, for the philosophy of this course stresses the point that communication is a "two-way" process.

The subjects for the study consisted of the students in a randomly selected "section" of the Fundamentals of Speech course. The group included eighteen students ranging from beginning freshmen to and including one graduate student.

Measurement of the effectiveness of the instructional unit was by a pretest and a post-test—forms 1-A and 1-B—produced by the Educational Testing Service (Princeton, N.J., 1957) as part of its "Sequential Tests of Educational Progress." This test is designed to measure listening ability in following directions, in understanding simple explanation, exposition, narration, argument, and persuasion, and in responding to aesthetic material, both poetry and prose. Norms are available for various levels; for this study the tests and norms for "Level 1" (college freshmen and sophomores) were used.

The three portions of the instructional unit consisted of (1) two fifty-minute lectures, (2) a motivating test, and (3) a period of

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[7] Arthur W. Heilman, "An Investigation in Measuring and Improving Listening Ability of College Freshmen," *Speech Monographs*, XVIII (November, 1951), 302–308.

[8] Ralph G. Nichols and Thomas R. Lewis, *Listening and Speaking* (Dubuque, Iowa: Wm. C. Brown Company, 1954), pp. 5–6.

[9] For example see Heilman, *op. cit.*, pp. 304–305. Heilman used a twenty-minute training session once a week for six weeks.

informal discussion on listening problems and theory. The lectures were designed and presented by a graduate student in speech. A graduate student was chosen *because* he had received no previous instruction or experience in teaching listening and was, we believe, representative of a high school teacher or very young college instructor. In fact, the graduate student selected had been a high school teacher of speech for one year and was preparing to teach a section of our Fundamentals of Speech course as a graduate assistant.

The lectures were presented on two consecutive days and followed an outline adapted from material in the textbook by Nichols and Lewis;[10] the outline employed was as follows:

I. Introduction to listening
II. Listening for comprehension
  A. Structuralizing the speech
    1. Introduction
    2. Thesis
    3. Body
    4. Conclusion
  B. Listening for main ideas, not facts
  C. Hearing significant details
III. Listening and concentrating
  A. Anticipating the speaker's point
  B. Adequacy of point support
  C. Reviewing as you go
  D. Listening for hidden meanings
IV. Listening to evaluate and apply
  A. Informative speech
  B. Persuasive speech

On the third day of the instructional unit a progress test in listening was given.[11] This test was composed of twenty items and was constructed by the graduate student who had given the lectures. It was designed to be used as a teaching and motivating device rather than as an instrument for measuring student progress. For this reason the results of this test are of no particular interest in this report.

The fourth day a fifty-minute class discussion was held with the graduate student in charge. The meeting was highly informal, unstructured in content, and the students were allowed to discuss and analyze their personal problems in listening.

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[10] *Op. cit.*, chapters 3,5,6.
[11] Cf. *Ibid.*, pp. 233–237.

Table 1
Scores on Pretest Compared with Scores on Post-test

	M	μ	*t*
Pretest	308.21	307.5	2.04
Post-test	312.50	308.9	

Analysis of Results

The results of the pretest and the post-test were compared to see whether significant improvements had resulted. Each raw score (number of correct responses) on the post-test was changed to a "converted" score according to a table supplied by the Princeton Testing Service; these "converted" scores take into consideration the improvement which students ordinarily make as a result of having taken a similar form of the test previously (i.e., the pretest).

The Princeton Testing Service makes available data for comparing local test results with the scores registered by a large number of students who have taken these tests. Using these data as a theoretical distribution of freshmen and sophomore students and applying the Kilmogorov-Smirnov one-sample test[12] as a measure of goodness of fit, the writers determined that the sample employed in this study can be accepted as an equivalent to a random sample drawn from the theoretical distribution at the five per cent level of confidence.

The mean difference between the scores of the pretest and the post-test was 4.29. Table 1 indicates the statistical credibility of the observed difference. The *t*-value indicates that the observed difference of the mean scores of the two test situations is statistically significant at the five per cent level.

Interpretation and Conclusions

Although the number of subjects studied in this project was small, the results obtained tend to indicate that even when listening is taught in a short four-day unit significant improvement can result. In present-day Fundamentals of Speech courses there is increasing pressure to allow more students into each class group

[12] Sidney Siegel, *Nonparametric Statistics for the Behavioral Sciences* (New York: McGraw-Hill Book Company, 1956), pp. 47–52.

and at the same time to give each of them the maximum opportunity to perform orally and to be critically evaluated by the instructor. In such a crowded program even an abbreviated unit in listening can be useful.

Further studies of the use of a short instructional period in listening are desirable. We offer four suggestions: (1) further experimental evaluation of the use of a "progress" test as a part of an instructional unit in listening; (2) comparison of the effects of class discussion with lectures over similar materials; (3) evaluation of class discussions which focus on students' personal analyses of their listening problems; (4) further study of the problem outlined in this report with the addition of later "follow-up" tests to determine the amount of long-term modification of listening habits.

Communication in the Courtroom

"At least one court of appeals has noted the difficulty in communication between medical experts, who are frequent witnesses, and lawyers, and has suggested that the difficulty should be met by the doctors' learning to adapt their vocabulary to that of the lawyers. The Court of Appeals for the District of Columbia has been more realistic and rational in stating that one of the reasons for its recent change in the rule as to the test of insanity in criminal cases was '. . . to remove some of the barriers to communication between lawyers and physicians.' For the lawyers to attempt to insist that the rest of the world must learn to speak in the artificial vocabulary and syntax of the law in order to express itself in the courtroom is to betray such a lack of understanding of humanity as to cast doubt on the ability of the lawyers to communicate successfully with others on any level. The burden is obviously on the legal profession to modify its principles and procedures so far as necessary to permit adequate communication with the rest of society or else to lose to others the task of finding facts and determining individual controversies."—*Lee Loevinger, "Facts, Evidence and Legal Proof,"* Western Reserve Law Review, *March, 1958, p. 170.*

FEEDBACK IN INSTRUCTIONAL TELEVISION

F. Craig Johnson*

There are several factors involved in teaching by television which have been studied in some detail. Research workers have found that teaching by television is at least as effective as that in the conventional classroom situation, and in some instances television does a better job. Several studies indicate that students who are in the television studio or originating room do not learn less than those in the TV viewing rooms.

P. A. Greenmeyer *et al.* states, "The most effective presentation of a subject is made by using a teaching studio rather than by bringing cameras into the ordinary classroom."[1] This observation seems reasonable since the television studio is designed to control light and sound while the average classroom is not. The television director has better control of the entire production if the speaker is in a studio. However, one practical problem is created. In the studio the space directly in front of the speaker usually is occupied by cameras, lights, microphones, studio monitors, and members of the television production crew. When this same space is used by members of the studio audience, good production is hampered. On the other hand, the studio audience is considered important by most lecturers because they are accustomed to speaking to students seated directly in front of them. Studio teaching is new to these teachers. They get no immediate feedback from their students. In many cases the studio teacher does not know who, or even where, his students are. Without this kind of feedback the studio teacher has no way of estimating the effect as he speaks. Some of this same problem exists in both radio and film teaching, but the immediate impact of closed-circuit television teaching requires special attention to this problem of feedback.

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* Dr. Johnson is an Assistant Professor in the School of Dramatic Art and Speech at Ohio University, Athens, Ohio. He is the director of instructional television research and is the television production manager of the closed circuit television laboratory. The background information is documented in F. Craig Johnson, "A Study of Feedback in Instructional Television," Ph.D. Dissertation, University of Wisconsin, 1958.

[1] P. A. Greenmeyer, A. F. Inglis, L. L. Lewis, and V. S. Mattison, "Television as a Teaching Medium," *College and University Business*, April, 1957, p. 23.

Several solutions have been offered for this problem. Fritz *et al.*[2] and Rock *et al.*[3] tested a feedback system which permitted the students in the viewing room to use a microphone to ask the lecturer questions. Conrad and Kelly[4] had a small panel of students sit in the television studio to simulate the reactions of students in the viewing room. Wallen[5] found that the reactions of studio technicians provided sufficient feedback to his lecturers. Very little objective research has been done, and as Kumata points out, "There are few studies which have attacked this problem directly."[6] The question as to whether the feedback provided by the studio audience aids the lecturer enough to affect the learning ability of the students in the viewing room remains unanswered. An objective answer to this question seems to be of value to the educator in his search for better utilization of television.

The Purpose

The purpose of this study was to determine whether the presence of a studio audience affects a lecturer's effectiveness as judged by the content which he communicates over closed-circuit television.

The Experimental Design

The achievement of this purpose required an experimental design which would control (1) the speaker, (2) the message, (3) the subjects, and (4) the test. The basic assumptions are that assigning speakers and subjects at random and that con-

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[2] M. F. Fritz, J. E. Humphrey, J. E. Greenlee, and J. A. Madison, *Survey of Television in Army Training* (Port Washington, L. I., N. Y.: Special Devices Center, 1952).

[3] R. T. Rock, J. S. Duva, and J. E. Murray, *Training by Television: The Comparative Effectiveness of Instruction by Television, Television Recordings, and Conventional Classroom Procedures,* NAVEXOS P-850-2 (Port Washington, L. I., N. Y.: Special Devices Center, no date).

[4] G. A. Kelly and L. H. Conrad, *Report on Classroom Television* (Montclair, N. J.: New Jersey State Teachers College, 1954).

[5] R. W. Wallen, "Teaching Psychology by Television," *School and Society,* LXXV (1952), 133–134.

[6] Hideya Kumata presents a detailed summary of instructional television findings in *An Inventory of Instructional Television Research* (Ann Arbor, Mich.: Educational Television and Radio Center, 1956).

Table 1

The Experimental Design of a Study of Feedback in the Television Lecture Situation

Speaker	Receiver		Feedback
1	10 Male	10 Female	Yes
2	10 Male	10 Female	No
3	10 Male	10 Female	No
4	10 Male	10 Female	Yes
5	10 Male	10 Female	No
6	10 Male	10 Female	Yes
7	10 Male	10 Female	Yes
8	10 Male	10 Female	No

trolling the outline of the message adequately eliminate systematic errors. Table 1 presents the experimental design in detail.

The Speaker

The eight speakers were chosen at random from the thirty-four members of the School of Dramatic Art and Speech, Ohio University, who normally teach Speech I (the fundamentals course). None had any experience with teaching by television in any course at Ohio University. The eight chosen were then assigned by chance to the eight trials of the experiment.

The Message

The topic for the speeches in the experiment was listening. The reasons for choosing it were (1) a lecture on listening contributes educationally to students in speech, and (2) since the topic was not part of the content of the course as offered at that time, all students had approximately the same background for receiving the message. The aim was to eliminate previous learning as a factor biasing test results.

The form of the message was considered next. Since the basic question of the experiment was the use of feedback and its effect on the speakers' ability to deliver the message, the use of a complete script was rejected, for a rigidly controlled presentation destroys the value of feedback. On the other hand, if each speaker made up his own message, there would be no basis for comparison. The decision, therefore, was to prescribe an

outline. This approach gave the required freedom, but kept the message constant enough to permit valid comparisons.

The first two chapters of *Listening and Speaking* by Nichols and Lewis provided most of the specific information for the outline. Each speaker was required to read these chapters in preparation for delivering the message.

The speakers created their own introductions, examples, conclusions, and supplementary materials. They were required to use the outline as the body of the message and to give verbatim all the information which it contained. The length of each message was twenty-five minutes.

The Channel

The closed-circuit television laboratory facilities provided the channel. The equipment included one vidicon camera chain, an audio pickup, and a television monitor placed in a regular classroom.

The shooting script was simple. The only camera movements were "dolly in" and "dolly out." The close shot included the speaker's head and shoulders. On the wide shot the speaker's stand and, in those instances when the studio class was present, the heads and the shoulders of the students providing feedback were visible. As a result of this pattern, the students in the viewing room realized whether other students were watching the speaker in the studio. The viewing room was dark except for a small light behind the monitor.

The Receiver

The subjects of this experiment were the students in nineteen unselected sections of Speech I at Ohio University. Eight subpopulations, each consisting of ten male and ten female students, were chosen by a random process. Each of these constituted one group in the viewing room. One alternate of each sex also was chosen for each group. The eighty-nine remaining students, all male, were assigned by chance to the studio audiences for the four experiments in which feedback was present.

A general meeting prior to the experiment included a brief statement about the importance of listening and attempted to motivate the student to do as well as he could on the tests.

The tests, the students were told, were for their benefit. Participation in the experiments was mandatory.

The Effect

The experiment necessitated two tests: a measure of initial ability and a measure of the amount of information acquired during the experiment. The Brown-Carlson Listening Comprehension Test, which is standardized, was used as the measure of initial ability. A graduate student administered this to all participants one week prior to the experiment.

The achievement test was based upon the outline of the message. Four types of questions were used: fifteen true-false and ten multiple choice on the concepts of learning; fifteen matching and ten completion on the factual information. No estimate of validity seemed feasible, but the reliability of the achievement test was estimated. The reliability estimate using the Kuder and Richardson method of rational equivalence for one hundred subjects in a pilot study was .80. Using the same formula for the experimental subjects, the estimate of reliability was .71.

The Feedback

The male students used to supply feedback were seated in the studio and took the same tests as the students in the viewing room. No comparison of this group was made with the group in the viewing room, since the conditions were so different. The scores on the tests, however, were used to estimate the reliability of the test employed for the experiment.

Summary

Eight speakers delivered a message over television on the subject of listening. Four had a studio audience of twenty male students to provide feedback; the other four talked without a studio audience. The receivers of the message took the Brown-Carlson Listening Comprehension Test one week prior to participation in the experiment. The message was delivered in twenty-five minutes, and the test consumed twenty-five minutes.

Results

The Brown-Carlson Listening Comprehension Test scores were normally distributed. The coefficient of correlation of this test

Table 2

Mean Achievement Test Scores and an Analysis of Variance of Information Obtained from Several Communicators under Different Feedback Conditions

Achievement Scores with Feedback			Achievement Scores Without Feedback		
Speaker	Male	Female	Speaker	Male	Female
1	25.6	26.1	3	21.9	25.7
2	29.6	28.2	4	22.3	25.7
5	22.5	25.5	6	26.4	29.0
7	25.9	23.6	8	25.5	27.0

Source of Variation	df	Sum of Squares	Mean Squares	F
Sex	1	7.83	7.83	4.1
Feedback	1	.75	.75	—
Sex x Feedback	1	8.42	8.42	5.9
Replications	3	5.79	1.93	
Sex x Replications	3	5.72	1.91	
Feedback x Replications	3	42.31	14.10	
Sex x Feedback x Replications	3	4.25	1.42	

with the achievement test scores for the within groups was .39, and the between groups correlation was .29.

Since this study was not concerned primarily with the lectures and since the only comparison possible was between random pairs of lecturers, a "Random Replications of Treatments × Levels Design" was used to analyze the data.[7]

Based on the results of these tests, the conclusions are as follows:

1. The initial ability of the subjects, as measured by the Brown-Carlson Listening Comprehension Test, did not account for differences on the test constructed for this study; there was little tendency for subjects who scored high on the Brown-Carlson Listening Comprehension Test to score high on the test constructed for this study.

2. The fact that the lecturer had an audience with him in the television studio resulted in no significant difference in the test scores of those students who viewed the lecturer over a television monitor.

[7] E. F. Lindquist, *Design and Analysis of Experiments in Psychology and Education* (Boston: Houghton Mifflin Co., 1956), pp. 238–239.

3. The sex of the subjects who viewed the lecturer over the television monitor resulted in no significant difference as measured by the test scores.

4. The interaction of the sex of the subjects and the presence of a studio audience showed no significance in the difference as measured by the test scores.

5. As the process occurred in this experiment, feedback is of no value to communication. However, since the circumstances in which feedback occurs vary greatly from one situation to another, the writer does not regard the result of this experiment as constituting evidence for doubting the value of feedback generally. The experiment does establish, however, that any assumption that feedback is *always* beneficial should be rejected. Further experimentation in this area is advisable.

Conclusion

The problem of space in a television studio is a critical one. The space in front of the lecturer is at a premium. Cameras, lights, studio monitors, microphones, and operation personnel need this space for flexibility of production. Most lecturers used for closed-circuit instructional television are accustomed to speaking to a classroom audience and believe they would be more at ease and do a better job if the audience condition could be simulated when they lecture over television. A studio audience, however, occupies the critical space needed for the production of the lecture over television.

This study suggests that if the communication of content is the prime consideration, the lecturer is no more effective when he has studio listeners than when he talks directly to the camera without an audience. It appears, therefore, that giving the premium space in the television studio to production equipment and personnel does not diminish the effectiveness of communication when the purpose is the transmission of information.

BRAINSTORMING RE-EVALUATED

R. S. Robins*

Introduction

Brainstorming is a topic which evokes reactions varying from wild enthusiasm to extreme negativism—with strong tendencies toward one extreme or the other. A more rational middle ground exists, the appreciation of which may prove useful to individuals inside or outside the engineering circumstances in which the author's experience has occurred.

By brainstorming will be understood that mode of uncritical and free-wheeling idea production through which an individual or a group attacks a problem in the hope of discovering fresh, fruitful viewpoints and new approaches. The customary output of this activity is an extended list of unfiltered and unevaluated thoughts expressed in the briefest possible form.

Simply because the topic is controversial, with professional groups on both sides of the issue, the further exploration of the subject appears worth while.

The Expectations of Brainstormers

Much of the controversy over the effectiveness of the brainstorming technique arises from differences in the expectations of the groups trying it. In some endeavours the fresh viewpoints generated by brainstorming are themselves sufficient justification for the effort. For example, in advertising or public relations, the brainstorm session may supply all that is needed to suggest many forms of acceptable follow-on actions.

But in the sciences and in engineering, viewpoints and insights are not enough. Understanding is useful, but the end product of the problem-solving effort must be empirically provable against physical laws. For such problem-solving groups, the brainstorming session must be judged by its eventual success

* Mr. Robins, holder of an S.M. degree from MIT, has for the past eight years been associated with the GE Advanced Electronics Center at Cornell University, Ithaca, New York, and there has been active in human factors problems in military electronics. The materials on which this paper is based derive from explicit and implicit considerations of creativity in military systems and in engineering design.

after further and perhaps extensive effort. No cryptic listings of ideas can be quantitatively complete, and hence brainstorming cannot fulfill a quantitative requirement without augmentation.

The Relation of Brainstorming to Creativity

A second cause of dissatisfaction common among scientists and engineers is that its proponents all too frequently introduce and "sell" brainstorming as a genuine form of creativity. It is no such thing. Some negative reaction must be expected from these folk who have even momentarily subscribed to what appears to be a fraud and a delusion.

To state that brainstorming and creativity are not equivalent is not the same as denying any possible connection between them. Creative output can arise during or as a later consequence of brainstorming. It is only with the casual assumption that brainstorming is a prerequisite sufficient to guarantee creativity with which issue must be taken.

Closer inspection of the relationship then is appropriate. The crux of the matter, the *sine qua non* of creativity, is the moment of illumination, the "moment of truth" if you will. According to the testimonies of responsible scientists, this moment or instant occurs when the confused mass of ideas, data, references, mental images, and whatnot jells into a coherent and comprehensive structure that encompasses all aspects—or exhausts the problem, to apply a mathematical phrase. I believe that this jelling of a structure of formation of a grand plan or strategy is a common element in all creative acts, be they scientific or artistic.

Some investigators report instances when the product of this moment of illumination was created whole and complete in every detail—as was Minerva produced from the brow of Zeus. Thus a verse of poetry can form itself in an instant, or the product of two six-digit numbers can be revealed in a flash to gifted arithmeticians. But, by and large, the revelation does not and hence need not possess its final detailed form; for most human beings the further step of verification or detailed exposition remains to be carried out.

Beyond the instant of illumination, the sciences and the arts diverge in their treatment. The scientist or the mathematician employs a formal logical technique in further exploring the

details of his proof or experimental plan. That this process leads to an objective confirmation of the validity of the skeletal framework is a popular misconception. In fact, if the basic assumptions are accepted, empirical demonstration forces an acceptance of the hypothesis offered.

The artist, on the other hand, employs his aesthetic senses to select appropriate techniques for achieving the desired but subjective confirmation. To the onlooker, the details of technique often appear as necessary as the creative moment itself and inseparable from it. I do not believe that this is the case. Such confusion probably occurs because expertness in technique is so commonly found among those who display the creative spark.

The correlation between these two seemingly separate skills may lie in the possibility that the man who has mastered external technique may have thereby released his highest mental powers so that they may concentrate upon matters which are abstract. This greater capacity should lead to a rapid, concise, and detailed definition of the issues at stake—an accomplishment which in turn should set the stage for creative resolution.

Brainstorming, if it serves this stage-setting function, offers a useful tool but not a unique one. Does it serve this purpose? Certainly a seemingly chaotic and perhaps idiotic list of brainstorm ideas in raw form does not on the surface appear to contain the seeds from which a clear problem definition and understanding may grow. In practice, however, and with careful cultivation, such seed content often is produced.

Classification as an Adjunct to Brainstorming

Classification is one systematic procedure which can be used in the further processing of brainstorm session data. Inspiration may at any time terminate the need for systematic approach; but since inspiration cannot be scheduled, a systematic alternative may be required to further set the stage for the eventual moment of problem solving.

To classify requires a criterion. Where the criterion (or criteria) pertain to factors implicit in the data, the explicit formulation of these issues often leads to a clearer perception of the problem. Thus classification may salvage much that is of value from a seemingly barren brainstorm listing.

The classification approach is not a substitute for the evaluation of each separate suggestion. It is, rather, a prior step which can provide a rational basis for evaluating both the suggestions listed originally and any others which may arise as a direct consequence of classification.

Since each classification format treats only one set of distinguishable classes, it seems reasonable that trying a number of formats may increase the likelihood of insight. Since a certain amount of trial and error is inevitable, the basis of classification initially selected and the coarseness of the breakdown are not ordinarily important. If the effort proceeds with tolerable precision, only a few "miscellaneous" items will remain. If the assignment of items seems intolerably arbitrary, the probability is that the original headings are inadequate and that unanticipated issues exist. Thus new issues are recognized, new categories are generated, and deeper insight is acquired.

Normally, several alternative approaches to classification can be perceived at the outset of this phase. If so, matrices of classification entries should be constructed to explore the several alternatives separately and in combination. Frequently this procedure highlights gaps in the original data, suggests new inversions of viewpoint, or demonstrates deficiences in the original statement of the problem.

At the point in time when further classification trials appear to be adding nothing new, a summary appraising the status of the group effort will suggest the next appropriate step. It may be necessary to start over with a different statement of the problem. A reinterpretation and application of physical laws may show that no solution is possible. Inspiration may have created a jump to a satisfactory conclusion. Or there may have resulted a new, prejudice-unencumbered view of fundamental issues upon which individual creativity can base further reflection.

The value of each of these results is of course widely variable, but the value of the process must be judged against the importance of the original problem and the possibility of discovering a fruitful answer. Was the possibility worth the effort? And can the effort be judged comprehensive enough to induce a fruitful answer where one exists?

Brainstorming as a Conditioner for Creativity

If, for the sake of discussion, the utility of brainstorming as a stage-setting device for creativity is granted, then the question is why the "razzle-dazzle" or "hoopla" commonly associated with its sessions. Professional men are trained to be critical, and the circus atmosphere often deliberately set up is repugnant to many. What is the purpose of playing games, abandoning all critical detachment, and perhaps exposing unprofessional personal quirks?

The results, according to personal experience, frequently do justify the means. The probable reason is that professional people are nonetheless people, and the gimmicks even with a selected group serve to set up the permissive atmosphere required for a free flow of ideas. Other techniques may also succeed, and sometimes, as with the "bull session," no device is necessary. But the spontaneous and timely occurrence of such permissive atmospheres is not to be relied upon. Brainstorming seems to be a quick and usually effective method of securing the desired results.

While setting the tone of such a meeting is of primary importance, there are other facets that do need careful attention. The minutiae of running such a session can play a major role in determining the success or the failure of the subsequent process of classification. Thus, setting the initial topics requires care. Furthermore, the level of abstraction at which the problem is posed plays an important part in determining the fruitfulness of a session. Too narrow a topic occasionally creates tensions which cause a compulsion to keep speaking even though the comments deviate from the stated problem. Similarly the interjection of judicial appraisals or the advent of authoritarian by-play may produce interesting and observable phenomena in the content, the process, and the results.

Long-term inbreeding of the thought process bearing upon the topic also creates difficulties in brainstorming. This problem is particularly evident when the individual attempts to cast off his prior prejudices and background and produce this free ideation or when a regular work group attempts to adopt a new interrelationship instantaneously at some point in its

regular activities. New blood may be needed to break down the barriers.

Conclusion

Brainstorming, then, is no substitute for creavity; but by inducing more careful definition of the problem at hand in all its aspects and dimensions, brainstorm sessions facilitate the creative act on the part of some one individual either during or after the meeting. Data from such gatherings may be further developed through a sequence of classification efforts. Brainstorming meetings, although sometimes notable for their circus atmosphere, do have their place. They need succeed only once or twice in a given group to gain acceptance and to establish their value as a useful tool in the initial steps of problem definition and analysis.

What They Think They Need

Irvin Gustaf Lewis interviewed representatives of 142 large industrial firms in order to secure the attitudes of management toward their needs and practices in oral communication. His study pertained to companies in Los Angeles County. Two of his most interesting conclusions are as follows:

"Oral communication in employee-management relations depended primarily upon the following fifteen practices, listed according to the frequency with which management representatives reported them in use: foremen's daily personal contacts with workers, grievance interviews, safety education, accident investigation, social affairs, absence interviews, collective bargaining, termination interviews, orientation, joint committees, progress reviews, personal and job counseling, plant visits by higher management, talks by higher management, public address systems.

"Nine speech skills, rated according to their importance to industrial employees, listed according to preference were conversational ability, listening ability, knowledge of human relations from the speech standpoint, conference leadership ability, public speaking ability, conference participation ability, voice and diction, broad vocabulary, and knowledge of parliamentary procedure."

CCCC NEWS

The Conference on College Composition and Communication, a permanent group within the National Council of Teachers of English, held its twelfth annual spring meeting at the Netherland Hilton Hotel in Cincinnati, Ohio, last March 31 and April 1 and 2. An extensive program dealing with many of the problems of the teaching of composition was organized in the form of workshops, panel discussions, and general sessions.

The program included seventeen multiple-session workshops. Fourteen of the workshops met four times during the three-day conference; three met twice. Six well-known persons were assigned to each workshop to serve as officers and research persons. The workshops dealt with the composition/communication course in various types of colleges, with problems of administration and research, and with such areas as speech, literature, grammar, and semantics.

The twelve panel discussions, which were scheduled so as not to interfere with the workshop sessions, were also directed to special problems in the teaching of communication. There were sessions devoted to "The College Professor as Communications Consultant," "The Freshman Theme as Personal Philosophy," "High Schools and Colleges Working Together," and "Textbook Writing and Publishing." Two panels discussed linguistics as this discipline bears on the teaching of communication, and one panel considered the mass media in the composition/communication course.

The speakers at the first general session directed attention to broad problems of higher education. At the second general session the speakers dealt with the question "What future for CCCC?" At the annual luncheon the speaker, Robie Macauley, Editor of the *Kenyon Review*, spoke on "The Writer's Communication with the World."

BURTON H. BYERS

Queens College

RESEARCH NOTES

FRANCIS A. CARTIER, *Editor*

The *Newsletter* of the Center for Documentation and Communication Research for last December reports that J. W. Perry is engaged in "a number of theoretical and basic research investigations which are expected to lead to the formulation of a theory of documentation and of searching strategy." John Melton has been conducting "a small demonstration project" for analysis, encoding, and searching of Civil War documents, "which were analyzed for preparation of standardized 'telegraphic' abstracts." He compared the results with those obtained through the use of conventional subject indexes. A third study at the Center involves comparative tests of notation systems for organic chemical compounds. Work of this kind makes us increasingly aware of the fact that we frequently fail to list the library and the technical information center among the important media of communication. The Center for Documentation and Communication Research is at the School of Library Science, Western Reserve University, which offers, you may be interested to know, a course titled, "Language Engineering." The course is described as a "Review of the role of language in constructing indexes and classification systems; language symbols and concepts as basic tools for communicating by written records. . . . Application of information theory and the theory of games in designing codes and machine language."

I know a few members who will be interested to know that the *Journal of Acoustics* of the Academy of Sciences of the USSR is now available in translation from the American Institute of Physics, 335 E. 45th St., New York 17, N. Y. It is quarterly, and the price is $12.00 a year. The few copies I have seen have very little in them directly related to speech, but they do contain some interesting articles.

"Early Reading and Writing," a series of three color films totalling forty-nine minutes and documenting one phase of a current research program into problem solving and social interaction illustrates a new way to report research. New teaching methods, devised by Omar K. Moore and Alan Ross Anderson, employ the electric typewriter to teach typing, reading, and lettering to chil-

dren three years old or less. An advertisement from Basic Education, Inc., Little Harbor, Guilford, Connecticut, provides the preceding information. Research Notes would appreciate an evaluation of the films from any reader who has seen them.

Many a member of NSSC will applaud William Gilman's article in the *South Atlantic Quarterly* for Autumn of last year, "The Bad Language of Science." Mr. Gilman deplores the fact that scientists write in such a way that the layman cannot understand them. But what is more to the point, other *scientists* also cannot understand these writings. Scientists, says Mr. Gilman, block themselves off from each other by communication clutter and technical jargon, much of which is unnecessary. If you don't think this is a real and costly problem, just ask one of the technical librarians who is concerned with the kind of documentation searches referred to above. The problem also is becoming intolerable for *communication* researchers, who certainly should know better. As a matter of fact, it is even a problem among documentation scientists.

Robert E. Campbell, "The Prestige of Industries," *Journal of Applied Psychology*, XLIV (Feb., 1960), 1–5.

A questionnaire given to 360 juniors and seniors at The Ohio State University listed fifty-two kinds of industries. The subjects ranked them in order of "prestige." The first five were medical services, colleges and universities, research laboratories, atomic energy plants, and banking. Television was 8th, motion pictures 11th, the Federal government 12th, publishing 15th, utilities 26th, restaurants 36th, farming 46th, and coal mining last. The Air Force, the Navy, the Marine Corps, and the Army came in 20th, 23rd, 27th, and 45th, respectively. The study will be of interest to anyone concerned with studies of the "corporate image" and with similar problems of industrial communication.

Robert F. Maizell, "Information Gathering Patterns and Creativity," *American Documentation*, XI (Jan., 1960), 9–17.

A study of the reading habits of creative chemists as compared with those of noncreative chemists. The former as compared with the latter read more technical literature, more difficult articles, and a broader range of material. They also seek out the less accessible materials and have a wider scope of interests.

William Karraker, "Teamwork and Safety in Flight," *Human Organization*, XVII (Fall, 1958), 3–8.

An airline pilot discusses the "occasional confusion, usually as a result of communication breakdown or delay" among the various departments of an air line.

(Continued on Inside Back Cover Page.)

BOOK REVIEWS AND NOTES

MARTIN P. ANDERSEN, *Editor*

THE FIELD THEORY OF MEANING. By Andrew Paul Ushenko. Ann Arbor: The University of Michigan Press, 1958; pp. 182. $4.75.

I do not feel it is either embarrassing or irrelevant to begin by stating that there is much in this book I do not understand. In the preface, Stephen C. Pepper makes seven direct references to his own doubts as to *his* understanding of it. Nor is Pepper always sure, when he understands Ushenko, that he *agrees* with Ushenko. And I am with Pepper there, too.

Ushenko's basic premise seems to be that meaning is always contextual, an idea which few readers of this *Journal* will find either controversial or novel. He limits his discourse to "communicable information by printed words" and states: "the meaning of words from the reader's point of view is their *maximum communicable information*, i.e., informative contents that cannot be enriched except by something which is not deducible from, or warranted by, the given words in accordance with their standard dictionary meanings." Ushenko proceeds then, not as a linguist, but as a logician, disinterested in any but the logical and the philosophical problems of meaning. His definition of meaning is a defensible one, but to put so much importance on it as to say that what "turns out to be the central problem of the philosophy of language" is the question "What does the reader understand when he understands a belief which no one, not even the reader himself, believes?" is open to some controversy.

Ushenko constructs an elaborate analogy between the field force vectors of physics and phenomenological psychology and, in fact, does this rather neatly. But phenomenal fields and electromagnetic fields have nothing in common but the analogy. The idea of psychological vectors may serve a transient purpose in explaining how the tugs and the shoves of perception, motivation, etc., result in a particular behavior, but to imply that there really *are* such vectorable forces is a bit thick. It is true that a field theory "brings unity out of plurality," but it is hard to prove the philosophic necessity of a mathematically unified vector system in human behavior. It would be convenient if human beings behaved like machines, but they stubbornly refuse to do so and a real phenomenologist would shudder at the oversimplification involved in reducing his concept of behavior to summated vectors. I kept hoping that Ushenko would give me some indication that he considers the vector analogy merely a useful pedagogic device for putting across his real ideas about meaning, but I was disappointed. Perhaps he has given the missing clue in one of his more turgid paragraphs, and I didn't understand it. Or perhaps he assumed that no reader would be so naïve as to believe otherwise. But I suspect the worst—that the vectors *are* his theory.

Most of Ushenko's references are to philosophers: Quine, Ayer, Carnap, Russell, Nagel, Kant, Dewey, etc. The only outsider who gets in is Boring, whose 1939 *Introduction to Psychology* is quoted once. Where Ushenko got his familiarity with phenomenological psychology is not clear; nor is it clear that he understands it very well.

A determined assault on this book by a truly dedicated professional logician may some day produce a translation which will prove Ushenko a genius. I can wait. And I advise you to do so, too.

—FRANCIS A. CARTIER

Air University

ELEMENTS OF STYLE. By William Strunk, Jr., and E. B. White. New York: The Macmillan Company, 1959; pp. xvi + 71. $1.00. (Paper.)

WRITER'S GUIDE AND INDEX TO ENGLISH. (Third Edition, Revised.) By Porter G. Perrin. Palo Alto, Calif.: Scott, Foresman and Company, 1959; pp. xvi + 816. $4.50.

EFFECTIVE WRITING. (Second Edition.) By Robert Hamilton Moore. New York: Rinehart & Company, Inc., 1959; pp. xviii + 608. $3.50.

These books represent time-tested recipes for the preparation of English prose. The Strunk and White book is rather a curiosity, since it is neither a textbook nor a complete manual. Its success in reaching a general public and climbing to the heights of the trade-book best-seller list must have surprised even its publishers. It is inadequate for the teaching of freshman English, as it contains too little material for a semester's work and is aimed at a better prepared reader than is found in the average beginning class. It would be most valuable as a supplementary work for any advanced course, since it seems designed for the man who already writes with some ease and fluency and needs only to be guided along the paths of verbal righteousness. This "little book" has no doubt about its own correctness; its great function will probably be to provide a definite answer for editorial assistants in need of security. Of the three books, *The Elements of Style* conceals under its pleasantly personal and somewhat discursive style the most definite stand on matters of grammar and usage. Never afraid to tell the writer what he must not do, it employs an old-fashioned standard and assumes that the man who consults this work wishes to know what is correct English, acceptable among the educated.

At the other end of the scale, Perrin probably would be unwilling to use the term *correct* without apologetic quotation marks around it. Perrin's book is the most permissive of the three. For example, the introduction deals with the old question "What is Good English?" and comes up with the answer that Good English is a matter of judgment. The student who wants an answer will have far greater difficulty in finding it in Perrin than he will in Strunk and White. To use Perrin intelligently, a student needs to understand thoroughly the introductory material on levels of usage. The thought occurs that the student who understands this section of the book thoroughly probably does not need the rest.

Moore's *Effective Writing*, frankly a text as is Perrin's book, stands between it and *The Elements of Style* in matters of usage. The position is that more than one usage exists but that one of them is preferable. The levels of the three books may be illustrated in their treatments of the same questions. For example, Strunk and White are forthright in discussing *unique*. "Means *being without a like or equal.* Hence, there can be no degrees of uniqueness." Perrin restricts this meaning to formal usage and says noncommitally that in general usage "it is sometimes found compared with *more* or *most.*" Moore, taking a sensible middle ground, acknowledges that *unique* in the sense of *rare* or *very unusual* occurs in colloquial and informal expression and recommends that it be avoided in college writing.

Of the textbooks, Perrin's is the more elaborate. Aimed more directly for the beginning student, Moore's book is some two hundred pages shorter than Perrin's. Both texts are obviously good ones, tested and popular; any choice between them must rest on the teacher's prejudices. This reviewer, tending toward the conservative, picks Moore.

—STEPHEN F. FOGLE

University of Florida

GUIDE TO AMERICAN ENGLISH. (Second Edition.) By L. M. Myers. Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1959; pp. x + 438.

This outstanding book is precisely named. A kind of Baedeker for college freshmen or for those wishing to brush up on English, it may offend the traditional teacher of English. Its seemingly cavalier treatment of many familiar prejudices about grammar will convince some that it is a trivial book.

Soundly based on linguistic principles, however, it is written with casualness and simplicity and with a frequent undercurrent of pleasant and almost subtle humor. Its easy-to-read style probably causes many to feel that the content must be inadequate or inaccurate—on the principle that good medicine must taste bad.

The book clearly differentiates between grammar and language etiquette; it defines standard English simply and adequately, and exposes the nonexistence of "perfect" English. It considers briefly the historical development of the language, areas of usage, and functional varieties; it avoids the pejorative term "levels."

Myers explains clearly the functions of word position and word relationships, kinds and classifications of words, functional changes in word forms, function words, and modification patterns. He analyzes the structure of statements and types of sentences. He sets up a new classification for sentences, that of "Comments." An example is an instructor's criticism of a student's sentence fragment, "Not a sentence."

Part II, "Problems in Writing," has many excellent chapters, ranging from "The First Paper" to "The Research Paper." The chapters on "Reports" and on "Letters" are particularly good, as are those on "Several Kinds of Truth" and "Uses and Limitations of Logic." The various sections relating to elementary semantics and its significance are well handled.

Each chapter is supplied with a brief set of extremely well-done, fresh, and appropriate exercises, none of which can be done cursorily.

Part III, "Index to Usage," is a delight to read. Arranged in alphabetical order without regard to the type or the nature of the "problem," its 125 clear, incisive pages provide accurate commentaries on current American usage.

This book should be very useful for some college English classes, but perhaps even more so for an adult who is interested in American English and wants to know more about it and how it works. Its sequence of chapters is not very well suited to a typical composition or "Communication" class; but since no teacher ever follows a textbook exactly, this possible weakness is not very important.

Actually, Myers provides a very pleasant challenge to a teacher. He includes glimpses of most of the materials generally covered in a freshman English class and in each case provides just enough to make the teacher want to add further explanations and examples from his own experience.

The chief criticism that will probably be launched against this book is that it is superficial. Such a comment, in the judgment of this reviewer, will reveal shallowness in the critic rather than in the book, for Myers' comments are a distillation of study and experience and are not a hasty set of inadequate observations. There may be disagreement with the organization, the light-hearted approach, and even the refusal to say that *contact* is not a verb. It will be very surprising, however, if anyone can find in this book a serious error, an important misinterpretation, or a distortion of objective fact. It is very strongly recommended.

Moorhead State College —JOSEPH W. MILLER

REPORTING. By Mitchell V. Charnley. New York: Henry Holt and Company, 1959; pp. xiv + 370. $4.75.

This reporting text gives more attention to communication as an entity than do most such works. At the same time the volume is an excellent presentation of the philosophy, the problems, the methods, and the techniques of modern reporting for all the mass media with major attention given to the newspaper.

The author also gives attention to the nature of the audience for news, how it is determined, what impact the audience has on the medium, and how the audience and knowledge of it influence the work of the reporter in gathering, organizing, and writing the news. The responsibilities and the problems of the newsman and the news media are realistically presented; there is no tendency to gloss over the nature or the importance of the difficulties.

News is considered as an essential tool of society which must be presented with speed, accuracy, and perspective in order to meet the society's needs, and there is emphasis on the concern which the reporter must have for these needs. The importance of sound educational and cultural backgrounds in planning and preparing news reports also is emphasized.

Charnley is good, too, in his treatment of style; he points up problems in current practice, warns against solutions which do not solve, and shows clearly the need for and methods of achieving simplicity, directness, good organization, tight writing, and vitality.

The many examples of news stories and leads, some 150, add much to the interest of the text, which of itself is highly readable. More than ninety marginal notes provide additional specific detail, points on possible added lines of exploration, and examples.

Each chapter is followed by suggested projects, most of which are feasible, meaningful, and stimulating; there are also suggestions for added reading.

The Charnley text not only is well fitted to basic reporting classes but also provides much helpful material for courses of two other types: (1) those concerned with understanding the mass media and their news-handling methods and problems and (2) those dealing with writing and aimed at improving factual communication.

—LESLIE G. MOELLER

University of Iowa

AUTOMATIC TEACHING: THE STATE OF THE ART. By Eugene Galanter. (Editor.) New York: John Wiley & Sons, Inc., 1959; pp. viii + 198. $3.25.

This small book is based on a collection of sixteen papers presented at a symposium held at the University of Pennsylvania under the auspices of the U.S. Air Force in December, 1958. Your reviewer found his interest in the subject matter and in the concepts presented becoming intense by the end of the book.

As in any such "proceedings," the degree of detail and the style of presentation vary with the different papers. Also, points of conflict and controversy which a single author would make clear must be dug out by the reader. But the disagreements are there, and they make for interesting reading.

Automatic teaching involves machines which either aid the instructor or

largely replace him. Possible subject matter for automatic teaching covers a wide range—from motor skills to complex problem solving. And the experience to date is sufficient to show that machines can be a powerful tool in teaching.

Perhaps the main controversy found in this book revolves around the type of answer expected of the student after he has been asked a question by the machine—free choice versus multiple choice. The free choice approach expects the student to emit a response—any response that comes into his head—when asked a question. In order to promote correct answers, the teaching "program" must then be set up as a large number of steps carefully designed to minimize the probability of an incorrect response. For it is likely that no machine short of a large scale digital computer could store all of the possible answers to each question, and thus tell the student whether his answer is right or wrong. This concept of teaching is similar to the "open loop" concept in control systems—there is little or no feedback involved.

The multiple choice approach, or a single correct answer approach, is advocated by many, for it takes advantage of feedback. The machine presents a question to the student. The student responds. The machine compares the student's answer with the correct answer and (*a*) if correct, allows him to go on to the next question, or (*b*) if incorrect, tells him of his mistake and attempts to get him back on the right course.

The field of automatic teaching is new, and controversies abound. Some of the researchers base their approach on psychological theories of learning; others take an empirical, pragmatic approach. If you are interested in an introduction to the field and in an overview of the differences of opinion, you will benefit from reading this book.

—Richard G. Canning

Canning, Sisson Associates, Los Angeles

Publications Received

(Listing of a publication below does not preclude its subsequent review.)

Bachelor, James M., Ralph L. Henry, and Rachel Salisbury. *Current Thinking and Writing.* New York: Appleton-Century-Crofts, Inc., 1960; pp. vi + 386. $2.95. (Paper.)

Berlo, David K. *The Process of Communication.* New York: Henry Holt and Company, 1960; pp. xiv + 318. $4.25.

Carrell, James, and William R. Tiffany. *Phonetics: Theory and Application to Speech Improvement.* New York: McGraw-Hill Book Company, Inc., 1960; pp. xvi +361. $7.75.

Davis, Hallowell, and S. Richard Silverman. *Hearing and Deafness.* (Revised Edition.) New York: Rinehart & Company, Inc., 1960; pp. xviii + 573. $7.95.

Elliott, Ralph W. V. *Runes: An Introduction.* New York: Philosophical Library, Inc., 1959; pp. xvi + 124 + xxiv (Plates). $10.00.

Grasham, John A., and Glenn G. Gooder. *Improving Your Speech.* New York: Harcourt, Brace and Company, 1960; pp. xx + 326. $3.75. (Paper.)

Klopfer, Walter G. *The Psychological Report.* New York: Grune & Stratton, 1960; pp. x + 146. $4.50.

Leggett, Glenn, C. David Mead, and William Charvat. *Prentice-Hall Handbook for Writers.* (Third Edition.) Englewood Cliffs, N. J., 1960; pp. xx + 524. $4.50.

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VOLUMES I–X INDEX (1951–1960)

This Index lists all articles published in *The Journal of Communication* from the first issue in 1951 through the last in 1960. *Note:* In 1951 and 1952 (Vols. I and II) the pages of each issue were numbered beginning with 1. In these instances 1,2:17 means "Vol. 1, No. 2, page 17." Since 1953 numbering has been consecutive throughout a volume, and 3:46 means "Vol. 3, page 46." Page numbers refer to the point at which articles begin.

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—FRANCIS A. CARTIER

Air University

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I. Communication in Government and the Military Service

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